



# High Voltage Cable Splicing Training

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## COURSE DATES AND TIMES

High Voltage Cables are required to be terminated in a manner that reduces electrical stresses at the termination point, or spliced in a manner that insures High Voltage cable integrity. To do this, precise techniques are required by the tradesmen assigned to finish the cable prior to entry into a cabinet, or repair a broken cable. If not done perfectly, the termination is destined to become a failure point in the electrical system.

This program describes the components of high voltage terminations and demonstrates how high voltage terminations are made.

Solid dielectric power cable systems are subject to higher voltages than ever before. Inadequate installation and testing of cable joints and terminations is the number one cause of failure. Proper cable splicing and termination drastically improves the lifetime of cables and prevents damage to downstream electrical equipment. This course is designed according to the type of cable and cable accessories utilized by your company.

At least 4 hours of the class is dedicated to “hands on” training; preparing cable, applying hot and cold splice kits. NOTE: Splice kits will be used, but not heated or shrunk to cable. This is done to reduce the price of the course for all. Examples of completed splices will be available for viewing. After all: 90 percent of the work is cable preparation!

NOTE: Students will bring measuring tape, utility knife, needle nose pliers, eye protection & work gloves.

## LEARNING OBJECTIVES

- Overview of Tape Products
- Electrical Tape Utilization
- Overview of Low Voltage Splicing
- How to perform Low Voltage Splicing
- Overview of High Voltage Terminations
- How to perform a High Voltage Termination
- Overview of High Voltage Splicing

- How to perform a High Voltage Tape Splice
- Overview of High Voltage Premolded Splicing
- How to perform a High Voltage Premolded Splice

## LEARNING OBJECTIVES

- Understand MV/HV cable types, components and design
- Learn the proper and safe use of heat and cold shrink splicing tools
- Proper heat and cold shrink cable preparation, installation and handling techniques
- Testing, heat and cold shrink splicing and termination procedures
- How to perform heat and cold shrink splicing and terminating technologies

## WHO SHOULD ATTEND

This High Voltage Cable Splicing Training course is designed for electrical engineers, operations managers, plant electricians and electrical contractors, utility linemen, and cable splicers that are responsible for the installation, maintenance, splicing and terminating of high-voltage cable systems.

## STUDENTS RECEIVE

- FREE 100-Page Digital Wire And Cable Handbook (Value \$20)
- \$100 Coupon Toward Any Future Electricity Forum Event (Restrictions Apply)
- 1.4 Continuing Education Unit (CEU) Credits
- FREE Magazine Subscription (Value \$25.00)
- Course Materials In Paper Format

## COURSE OUTLINE

### **Hands-On Cable Splicing and Terminating Training**

#### **Instructor:**

*John Robin, Cable Splicing Specialist, The Electricity Forum*

## COURSE OBJECTIVES

- Overview of Tape Products
- Electrical Tape Utilization
- Overview of Low Voltage Splicing
- How to perform Low Voltage Splicing
- Overview of High Voltage Terminations
- How to perform a High Voltage Termination
- Overview of High Voltage Splicing
- How to perform a High Voltage Tape Splice
- Overview of High Voltage Premolded Splicing

- How to perform a High Voltage Premolded Splice

## **Fundamentals of High Voltage Termination**

- High Voltage Functional elements
- Cable components
- Electrical characteristics
- High Voltage Termination Techniques
- Termination Classifications
- Class 1 Terminations
- Class 2 Terminations
- Class 3 Terminations
- Cable Preparation
- Instructors demonstration of a Class 1 Termination procedures
- Practical application
- Jobsheet #3 – Perform a Class 1 Termination

## **Fundamentals of High Voltage Splicing**

- High Voltage Tape splicing Techniques
- Cable components
- Electrical characteristics
- Instructors demonstration of cable preparation
- Practical application
- Jobsheet #4 – Perform a 15KV mono conductor cable tape splice
- High voltage Premolded splicing Techniques
- Comparative analysis of tape splice vs. premolded splicing
- Cable Components
- Overview of cable splicing
- Practical Application
- Jobsheet #5 – Perform a 15KV mono conductor premolded splice

## **Cable Construction**

- Describe how voltage stress can cause a cable to fail.
- Identify the main components of a high-voltage cable.
- Describe the function of each component of a high-voltage cable.

## **Principles of Cable Termination**

- Explain how a high voltage termination provides voltage stress control
- Explain how a high voltage termination provides protection against tracking.
- Explain how a high voltage termination provides a seal to the environment

## **15-KV Solid Dielectric Cable Preparation – Hot Shrink**

- Identify the components of a high-voltage solid dielectric cable.
- Describe or demonstrate how to prepare a single-conductor dielectric cable for a termination.

### **15-KV Solid Dielectric Cable Termination – Hot Shrink**

- Describe or demonstrate how to apply the kit used to make a termination on a single-conductor 15-KV solid dielectric cable.
- Describe or demonstrate how to install the insulator hoods and connector on a single-conductor 15-KV solid dielectric cable.

### **15-KV Solid Dielectric Cable Preparation – Cold Shrink**

- Describe or demonstrate how to prepare a single-conductor dielectric cable for a termination.

### **15-KV Solid Dielectric Cable Termination – Cold Shrink**

- Describe or demonstrate how to apply the kit used to make a termination on a single-conductor 15-KV solid dielectric cable.

### **15-KV Solid Dielectric Cable Splice Preparation – Hot Shrink**

- Describe or demonstrate how to prepare a single-conductor dielectric cable for a splice.

### **15-KV Solid Dielectric Cable Splice Preparation – Cold Shrink**

- Describe or demonstrate how to prepare a single-conductor dielectric cable for a splice.

At least 4 hours of the class is dedicated to “hands on” training; preparing cable, applying hot and cold splice kits. NOTE: Splice kits will be used, but not heated or shrunk to cable. This is done to reduce the price of the course for all. Examples of completed splices will be available for viewing. After all: 90 percent of the work is cable preparation!

NOTE: Students will bring measuring tape, utility knife, needle nose pliers, eye protection & work gloves.

### **Questions and Answers**

## **COURSE TIMETABLE:**

### **Both days:**

Start: 8:00 a.m.

Coffee Break: 10:00 a.m.

Lunch: 12:00 noon

Restart: 1:15 p.m.

Finish: 4:30 p.m.

Contact us Today for a FREE quotation to deliver this course at your company's location.

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